The Computer and Computational Sciences Division (CCS) at Los Alamos National Laboratory (LANL) has found a creative way to invest in the future of U.S. science.

It has designated $150,000 from its royalties fund for scholarships and teacher training.

- CCS donated $20,000 for three scholarships awarded at the National American Indian Science and Engineering Fair (NAISEF) in Albuquerque in March.

- The division contributed $80,000 of the $92,900 in scholarships awarded April 25 at the New Mexico Supercomputing Challenge held at the Laboratory.

- And CCS provided $50,000 to sponsor the Summer Teacher Institute at Santa Fe Indian School July 17-28 to train teachers who will be a key part of next year's Supercomputing Challenge.

Gina Fisk, the student liaison for CCS, said the donations were intended to encourage bright young computer science students, develop outstanding science teachers, and benefit "science as a whole."

Under LANL policies, when division scientists receive royalties on patented work done at the Laboratory, 35% of the money goes to the scientist, 35% goes to the scientist's division, and 30% goes to the Laboratory. A division's royalty money can only be used for educational purposes or for research that isn't funded by another donor.

Over the last five years, CCS royalty money had built up to more than $300,000. This year, the division plowed the money back into science.

At the request of Stephen Lee (then CCS deputy division leader and subsequently division leader), Fisk developed a plan for educational spending. She and Lee met to refine the proposal, and it is now in effect. Lee said the donations are "an investment in the future for computational science, for the Laboratory, and for the nation."

On March 25, at NAISEF, Fisk awarded a $10,000 scholarship to Hannah Woriax, a senior at Purnell Swett High School in Pembroke, North Carolina; a $5,000 scholarship to Alyssa Bullard, a junior at Purnell Swett; and a $5,000 scholarship to Natasha Gail from Rough Rock High School on the Navajo Reservation in Arizona.

Fisk said that tribal elders attended the fair and were "very appreciative of the awards."

Woriax did a study on how to kill bacteria without using antibiotics, producing a time-lapse video showing how garlic, sage, and other herbs affected bacteria over time. Woriax plans to go to the University of North Carolina and earn a degree in biology or pre-medicine.

Bullard did a study of deforestation in North Carolina, determining that when trees are cut down, more ammonia contaminates ground water. Bullard plans to go to Duke University and study some field of science.

Gail did a study on what causes errors in Global Positioning System (GPS) readings. She took readings on a perfectly flat football field, recorded results that erroneously indicated a bumpy surface, and then worked out mathematical corrections to the problem. Next, she repeated the process on a hill. She plans to attend St. John's College in Santa Fe and major in oceanography.

One month later, on April 25, Fisk stood on another stage and handed out seven scholarships at the Supercomputing Challenge. This time, the award ceremony brought back memories. "I was in the Challenge in 1992," she said. "I was on one of the winning teams." Two years later, in 1994, she went to work for the Laboratory.

Fisk was a finalist judge at this year's Challenge. She got to talk to all of the students in the final round of competition. "It's great to be able to help the students out," she said. "A lot of them were really excited about their scholarships."

The scholarships donated by CCS were as follows:

- $40,000 ($10,000 renewable for four years) to Samantha Stutz from Los Alamos High School, who did wildfire behavior modeling in Acid Canyon in Los Alamos County. Her ongoing study seeks to determine whether tree-thinning will really reduce the threat of crown fires in the forest. She plans to attend the University of Wyoming and continue her work in biological computing. Fisk commented, "The judges said she was simply outstanding and is definitely Ph.D. material."

- $10,000 to Nicholas Kutac of Rio Rancho High School, who worked on a team that modeled fire spread as a function of fuel types. He plans to go to New Mexico State University and major in mathematics.

- $10,000 to Stephanie McAllister of Manzano High School in Albuquerque, who worked with a team from Eldorado High School (also in Albuquerque) on a statistical analysis of the comparative speeds of parallel computer codes. She plans to go to New Mexico Institute of Mining and Technology (New Mexico Tech) and major in computer science.

- $5,000 to Matthew Paiz from St. Pius High School in Albuquerque, who also plans to go to New Mexico Tech and major in computer science.

- $5,000 to Ryan Loyd from St. Pius, a third student who plans to go to New Mexico Tech and major in computer science.

- $5,000 to Mark Wunsch from St. Pius, who plans to major in computer science at the University of New Mexico.

- And $5,000 to Jane Kim from Oñate High School in Las Cruces, who plans to go to Duke University and major in science.

In all, Fisk noted, CCS has awarded $100,000 to 10 high school students from around the country. Six of them plan to attend universities in New Mexico. Sixty percent of the recipients are women, and 40% of them come from minority groups. A total of 40% of them plan to major in computer science; 10% plan to study mathematics; and the other 50% will major in some other branch of science.

Perhaps someday, one of them will stand on a stage at LANL and hand out scholarships to encourage future scientists…